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## PATENT ABSTRACTS OF JAPAN

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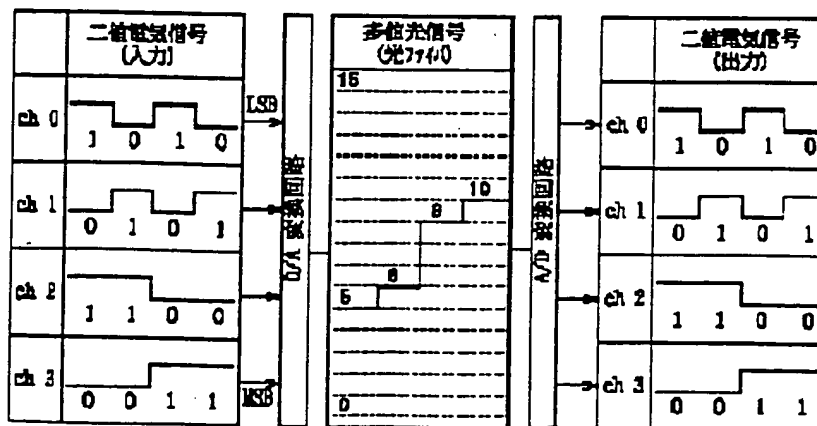
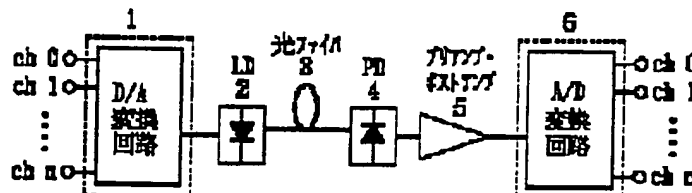
(74) Representative:

(54) **OPTICAL TRANSMISSION CIRCUIT, OPTICAL RECEPTION CIRCUIT, AND OPTICAL TRANSMISSION/RECEPTION CIRCUIT**

(57) Abstract:

**PURPOSE:** To perform communication with a low power consumption by converting plural inputted binary electric signals to optical signals and transmitting them through an optical fiber and converting a received multilevel optical signal to a binary electric signal.

**CONSTITUTION:** When digital signals are inputted to respective channels on the transmission side, they are converted into an analog multilevel optical signal shown in the central Fig., and this optical signal is transmitted to the reception side through an optical fiber 3. On the reception side, an A/D conversion circuit 6 performs A/D conversion to decode the digital signals



shown in the right Fig. Consequently, an LD drive circuit, a preamplifier circuit, a host-amplifier circuit, etc., are considerably simplified in comparison with those in the parallel transmission system, and the power consumption is reduced. Since it is unnecessary to increase the operation speed in this case, the power consumption is not increased and is more reduced; and the circuit is made multi-channel without considerable improvement of characteristics of devices constituting the circuit.

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